Dendrobium meghalayense (Orchidaceae). A taxonomic synonym to *Dendrobium sulcatum*[a]

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Abstract

Based on comparison between the original description and type illustrations and other data available for *Dendronium meghalayense* Kumar & Chowdhury and *Dendrobium sulcatum* Lindley, we propose to consider both taxa to be conspecific.

Résumé

Dendrobium meghalayense* (Orchidaceae), synonyme de *Dendrobium sulcatum – Sur la base d'une comparaison entre la description originale, les illustrations types et d'autres données disponibles pour *Dendrobium meghalayense* Kumar & Chowdhury et *Dendrobium sulcatum* Lindley, nous proposons de considérer ces deux taxons comme conspécifiques.

Introduction

Dendrobium meghalayense (erroneously spelled as *meghalayensis*) was established by Yogendra Kumar & Chowdhury from Pynursula in the East Khasi Hills, district of Meghalaya, in the year 2003. The author compared it with its allied species *D. sulcatum* described by Lindley in 1838 from Khasia Mountains and stressed some differences. A careful study of the description of *D. meghalayense* and the type figured in the protologue

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(Kumar & Chowdhury, 2003) and a detailed comparison of these materials with the analogous materials for *D. sulcatum* Lindley (1838) and other relevant literature (Hooker, 1887 [T. 6962]; 1890; King & Pantling, 1898; Hedge, 1984; Kataki, 1986; Barua, 2000; Lucksom, 2007) as well as material from a recent collection from Jowai, Meghalaya the type locality, made us come to the conclusion that *Dendrobium meghalayense* is conspecific with Lindley's *D. sulcatum.* However, as, contrary to the claim by Yogendra Kumar and Chowdhury, the type specimen (holotype and isotype) of *D. meghalayense* was neither deposited in CAL nor in ASSAM, that material could not be examined. Furthermore, the senior author of the publication could not produce the isotype allegedly deposited at NEHU. Therefore the present study is based only on the protologue.

Kumar & Chowdhury (2003) mention in their publication that the leaves of *D. meghalayense* are elliptic-lanceolate. They also state that the apex of the leaves are obtuse, but the illustration shows the leaves to be acute (Fig. 2C). While describing *D. meghalayense*, Yogendra Kumar & Chowdhury seemingly overlooked that several important characteristics of this species were fully identical with the analogous characteristics of *D. sulcatum* such as pseudobulbs that are narrowed at the distal end, leaves with acute apices, a hypochile with dark red streaks as shown by the materials from the Orchid herbarium Tippi (OHT), Arunachal Pradesh and materials kept on the ASSAM herbarium, Shillong from Arunachal Pradesh, Assam, Meghalaya. The comparison clearly showed that there is no difference between the concept of *D. meghalayense* and the concept of *D. sulcatum*. We must therefore conclude that the two taxa discussed are fully conspecific. Thus, *D. meghalayense* is to be regarded as a taxonomic synonym of the latter species. Photographic illustrations of *D. sulcatum* and descriptions are provided herewith to support the above statement (Fig. 1, 2A, C & D).

Taxonomic treatment

Dendrobium sulcatum Lindley, *Edwards's Botanical Register*, 24. t. 65 (1838); *Botanical Register*, 30: Misc. 62:51 (1844; 1844); *Paxton's Flower Garden* 1: 135 (1851); Hooker f., *Botanical Magazine*, t. 6962 (1887); *Flora of British India* 5: 749 (1890); King & Pantling, *Annals of the Royal Botanic Garden Calcutta*, 1898 55, T. 78 (1898). Fig. 1.

syn. nov. *D. meghalayense* Yogendra Kumar & Chowdhury, *Die Orchidee* 54(4): 457 (2003).

Large, erect epiphytic herbs. Roots 1-1.5 mm thick in the middle. Pseudobulbs, 14-30 cm high, erect, clavate, narrowed towards base, laterally compressed, grooved; internodes 1.0-6.5 cm apart. Leaves 7.5-21 × 2.5-5.5 cm, broadly elliptic to elliptic ovate, apex acute, 3 or 4, subterminal, distichous, sessile, coriaceous, multiple nerved. Inflorescence 10-12 cm long, axillary, densely 4-13-flowered arising adjacently to leaf borne on nodes of foliate stems; peduncles 25-40 mm long, sheathed; basal sheaths 3-4 × 2-3 mm, ovate, subacute, 2-3 in number, overlapping at base, membranous, distant above; rachis 30-45 mm long, light green; floral bracts 3.5-4 × 2.5-3 mm, ovate, acute, transparent, glabrous, 3-veined. Flowers 40-60 mm across, sepals and petals dull yellow or uniformly golden yellow, lip with red-purple markings or stripes at base, connivent; pedicel and ovary 10-12 mm long, slender, cream colour, gently curved, ridged; dorsal sepal 15-23 × 8-9 mm, oblong, sub-acute, 5-veined; lateral sepals 22-22.5 × 8-11 mm, oblong, sub-obtuse, 5-veined, adnate at base to form a mentum; mentum 3.5-4.5 × 3.5-4 mm, light yellow, obtuse, entire, rounded; petals 17-22 × 7-12 mm, narrower at base, sub obovate, obtuse, concave, margin minutely sub-erose towards acute apex, 5-nerved, laterals branched, base contracted into a short claw. Lip 18-27 × 13-21 mm, obscurely 3-lobed, sub-orbicular to wedged shaped, incurved, shortly clawed, orange-yellow with few red-purple streaks at base and many nerves run from the base of the hypochile to the apex of epichile; hypochile erose; epichile densely pubescent near margin; base shortly clawed, margin minutely erose to ciliate-hairy; apex emarginated. Column and foot 9.5-10 × 2.5-3 mm, orange, margin with 2 purple lines, foot hollow; stelidia 2, purple, minute, rostellum white; attachment longer than stelidia, acute, Anther 3-3.5 × 2-2.5 mm, whitish-light yellow, subglobose, glabrous, frontage erose, slightly retuse or emarginated at apex. Pollinia 1.5-2 mm long, 4 in 2 pairs, pairs unequal, ellipsoid, edges obtuse, yellow.

Type: NE India: Khasia, *Gibson sine no*. Type figured in *Edward's Botanical Register* Vol. 24: t. 65 (1838).

Flowering: April-May; *Fruiting*: June onwards.

Specimens Examined: ARUNACHAL PRADESH, Bhalukpung, S. N. Hedge 2024 (OHT!), Namarah, S. N. Hedge 3691 (OHT!), Pagla Nallah, A. N. Rao 28710 (OHT!), Palin River Bank, Subansiri district, A.R.K. Sastry 45265 (ASSAM!), Amjee vicinity, A.R. K.Sastry 45507 (ASSAM!).

ASSAM: On the way from Digboi to Lekhapani, G. Panigrahi 18996 (ASSAM),

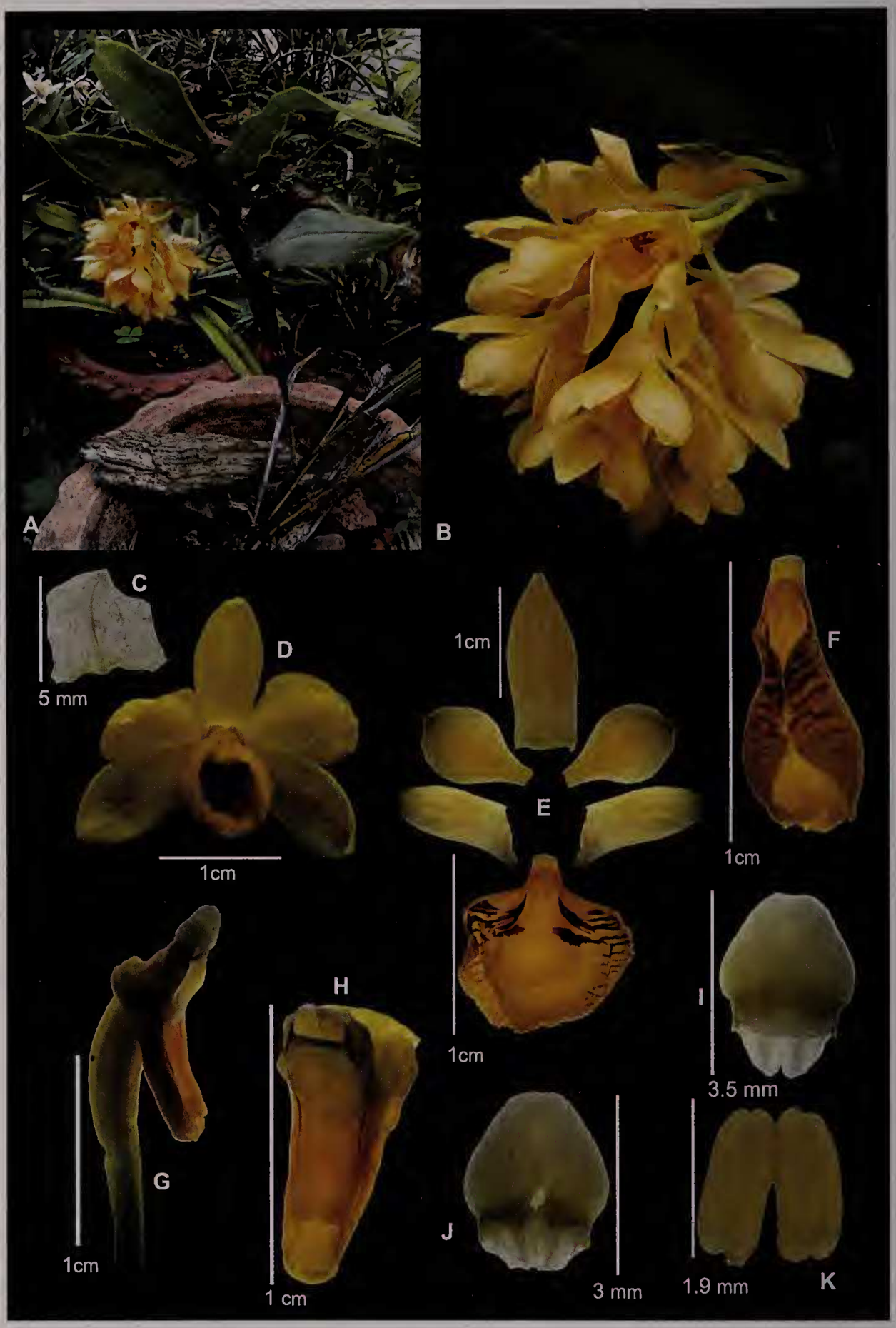

Fig. 1: *Dendrobium sulcatum* Lindley

A. Habit – B. Inflorescence – C. Floral bract – D. Flower, front view – E. Floral perigone with lip – F. Lip, front view – G. Column & foot with anther, pedicel & ovary – H. Column & foot, front view – I & J. Anther, dorsal & ventral views – K. Pollinia

Fig. 2: *Dendrobium sulcatum* & *Dendrobium meghalayense*

A. *D. sulcatum* from *Edwards's Botanical Register*, t.65 (1838) – B. *D. meghalayense* from Yogendra Kumar & Chowdhury (2003) – C. *D. sulcatum* from King & Panting (1898) – D. *D.sulcatum* from Hooker (1887, t.6962)

Chaldhowa, North Lakhimpur, D. M. Verma 4669 (ASSAM!); MEGHALAYA: Umsaw, G. K. Deka 23544 (ASSAM!), Jowai, C. Deori 101142, 101293 (ASSAM!); SIKKIM: dt. 1893, R.Pantling 138 (BM from online Botany collection database).

Distribution: India: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Sikkim (Mao, 1999; Singh *et al.*, 1990). China, Laos, Thailand, Myanmar, Vietnam (Seidenfaden, 1985; Zhu *et al.*, 2009)

Note: Hooker (1887) mentions that the drawing of *D. sulcatum* (Lindley, 1838) (Fig. 2A) was made from a very poor specimen that flowered in the Duke of Devonshire's garden at Chats-worth. The drawing represents a narrowly oblong leaf, described as three-nerved but figured as five-nerved, and a clavate stem with three racemes of three flowers each. Hooker himself re-examined the ill-preserved and mutilated type specimen (the true *D. sulcatum*) and found the characters different from those figured by Lindley (1838): its leaves were intermediate in width between Lindley's illustration and Hooker's one (*D. sulcatum* t. 6962. Fig. 2 D) and have many nerves; moreover the raceme bore thirteen bracts, indicative of the position of as many flowers. Therefore the characters of the true *D. sulcatum* (as described by Hooker) are the same as those described by Yogendra Kumar & Chowdhury (2003).

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References

Barua, I. C., 2000. *Orchid Flora of Kamrup District, Assam* (*with illustration*) p.168. Bishen Singh Mahendra Pal Singh, Dehra Dun, India.

Hedge, S. N., 1984. *Orchids of Arunachal Pradesh*. p. 64. Itanager.

Hooker, J.D., 1887. *Curtis's Botanical Magazine* 113(ser.3): t. 6962. Royal Botanic Gardens, Kew, London.

Hooker, J.D., 1890. Orchidaceae. In.: *Flora of British India* 5: 749. Reeve & Co., London.

Kataki, S. K., 1986. *Orchids of Meghalaya* p.48. Forest Department, Shillong, Meghalaya.
King, G & R. Pantling, 1898. The Orchids of Sikkim Himalaya. *Annals of the Royal Botanic Garden, Calcutta*. Vol. 8: 55. T. 78.
Kumar, Y. & S. Chowdhury, 2003. *Dendrobium meghalayensis* Yogendra K. & Chowdhury – a new species of Orchidaceae from Meghalaya, India. *Die Orchidee* 54(4): 457.
Lindley, J., 1838. *Edward's Botanical Register* 24: t.65, London.
Lucksom, S. Z., 2007. *The orchids of Sikkim and North East Himalaya* p.609. Development Area, Jiwan Thing Marg, Gangtok, East Sikkim, India.
Mao, A. A., 1999. Notes on Orchids of Senapati and surrounding hills in the state of Manipur, India. *Journal of Orchid Society India* 13(1-2): 55-68.
Seidenfaden, G., 1985. Orchid Genera in Thailand XII. Dendrobium Sw. *Opera Botanica* 83: 19.
Singh, D. K., B. M. Wadhwa & K. P. Singh, 1990. A conspectus of Orchids of Mizoram: their status and conservation. *Journal of the Orchid Society India* 4: 51-64.
Zhu, Gauanghua, Zhanhe Ji, Jeffrey J. Wood & Howard P. Wood, 2009. *Flora of China* 25: 367-397. Downloadable from www. eFloras.Org.

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